LIST OF SOME *HYMENOPTERA* FROM ALGERIA AND THE M'ZAB COUNTRY.

By the Rev. F. D. MORICE.

[These *Hymenoptera* were collected by Lord Rothschild and myself in various parts of Algeria, and those from the Oued Nça and Ghardaïa by me in 1914. About the localities the articles in *Novitates Zoologicae* xviii. (pp. 470, 471), xxi. (pp. 180–185), and xxii. (pp. 61–65) may be consulted. No doubt a good many more species could be found in the M'zab country, but I had very little time there for the collecting of *Hymenoptera*, as during my brief stay a number of days were lost for it through gales and cold, dull weather, besides that most of my time was occupied with the primary objects of the journey, *i.e.* the collecting of birds and their eggs, and of *Lepidoptera*.

The specimens will be presented to the British Museum.—Ernst Hartert.]

1. *Allantus pectoralis* Kriechb. ♀ (Oran).
2. *Stilbum splendidum* F. var. ♀ (Ghardaïa).

Perhaps = var. *pici* Buyss. The mesonotum is densely punctured. But it is exceedingly small, and with a singularly purple coloration resembling that of *Clorysis episcopalis* Spin.

3. *Chrysis ignita* ♂ (Hammam Rirha).
4. *Mutilla barbara* L. ♀ (Aïn Sefra).
5. *Dasylabris maura* L. ♀ (Aïn Sefra).
6–10. *Dasylabris arabica* L. ♂♂ (Aïn Sefra).
11. „ „ „ ♂ (Ghardaïa).
12. „ „ „ ♀ var. (Ghardaïa).

I think this must be the ♀ of No. 11, which seems to be certainly a ♂ of *arabica*. It does not, however, quite agree with *arabica* ♀ (= *ornata* Klug sec. André) as described by André (*Spécies* viii. p. 395), since it has, in addition to the markings there mentioned, a **medial** pilose spot on each of the segments 3, 4 and 5, these spots practically coalescing to form a continuous longitudinal stripe (or "vitta") which broadens gradually from base to apex. Similar specimens which I took at Biskra in 1898 were recorded by the late E. Saunders (*Tr. Ent. Soc.* 1901) as *italica* F. But one of them was sent later to André and returned by him as "*ornata* Kl." i.e. *arabica* (vide *Spécies* l.c.), and this determination, so far as I can judge, seems to be probably the right one. (The pygidial area is **uniformly** reticulate, and by no means like that of *italica* as described by André).

13. *Stenomutilla argentata* Vill. ♀ (Oran).
14. *Myzine lacteipennis* Ed. Saund. ♂ (Aïn Sefra).
15. *Myzine sexfasciata* Ross. ? ♂ (Ghardaïa).
16–18. *Scolia bidens* L. ♂♂ (Aïn Sefra).
19. „ „ „ ♀ (Aïn Sefra).

(This species was very common on flowers in gardens and near the town, at Aïn Sefra. We also observed it at Hammam Rirha.—E. H.)

20. *Scolia interstincta* Kl. ♂ (Aïn Sefra).
21. *Elis carbonaria* Kl. ♀ (Aïn Sefra).

22. *Clavelia brevipennis* F. ♀ (Oran).
23. *Psammochares* (= *Pompilus*) *fumipennis* Dahlb. ? ♀ (Oran).
24. *Psammochares viaticus* L. ♀ (Aïn Sefra).
25–26. *Harpactopus* (= *Sphex* auctt. pars) *stchurowskyi* Rad. var. *hyalipennis* Kohl. ♀♀ (Aïn Sefra).
27–28. „ „ „ „ ♂♂ (Oued Nça and El Arish).

The above specimens exactly resemble specimens from Biskra determined for me by Kohl many years ago when the ♂ was undescribed. I described it in *Trans. Ent. Soc. Lond.* Part III. 1897.

29. *Parasphex albisectus* Lep. ♀ (Laghouat).
30–31. *Parapsammophila dives* Brull. ♀♀ (Ghardaïa).
32–33. *Sphex* L. (= *Ammophila* auctt.) *heydeni* Dahlb. ♂♂ (Aïn Sefra).
34–35. „ „ „ „ „ ♀♀ „ „
36. *Psammophila tydei* Guill. ♂ (Aïn Sefra).
37. „ „ „ ♀ „ „
38–39. *Psammophila hirsuta* Scop. ♂ (Aïn Sefra).
40. „ „ „ ♀ „ „
41. *Tachysphex eduardi* Saund. ♀ (Aïn Sefra).

(Saunders's description was published after his death in *Trans. Ent. Soc.* Part IV. 1910.)

42. *Tachysphex panzeri* Kohl. ? ♀ (Oued Nça).
43–44. *Vespa germanica* F. ☿☿ (Oran and Hammam Rirha).
45–46. *Polistes gallicus* L. ♀♀ ? (Aïn Sefra).

Perhaps only large ☿☿. I do not know how to distinguish satisfactorily the ☿☿ and ♀♀ of this group. The character of size seems hardly sufficient.

47–48. These are clearly ☿☿ of *P. gallicus* (Aïn Sefra).
49–50. Also ☿☿ of *P. gallicus*, somewhat less copiously ornamented than those from Aïn Sefra (Laghouat, and Hammam Rirha).
51–53. Also ☿☿ of *P. gallicus*, highly coloured like the Aïn Sefra specimens (Hammam Rirha).

According to Saussure's criteria for distinguishing the forms *gallicus* and *biglumis*, all the above specimens 45–53 are to be assigned to *gallicus*, which is certainly the prevailing if not the only form in Algeria !

54. *Eumenes dimidiatipennis* Sauss. ♀ (Aïn Sefra).

I have previously met with this form only from Oriental districts (Egypt, etc.) and do not know of any other record of it from Algeria, except the specimens collected by Dr. Hartert in the sandy tract of El-Arich, at El-Golea, and in the Southern Oued Mya in 1912 (cf. *Nov. Zool.* xx. 1913, p. 599).

55–57. *Eumenes arbustorum* Penzer var. *algira* Schulz ♀♀ (Ghardaïa).
58. „ „ „ „ „ ♀ (Oued Nça).
59. *Odynerus* (*Hoplopus*) *variegatus* F. ♀ (Hammam Rirha).
60–61. *Odynerus* (*Lionotus*) *crenatus* Lep. ? ♂♂ (Ghardaïa).

The distinction between *crenatus* and *dantici* seems rather doubtful. If the forms can be separated specifically, these specimens belong (I think) to the former. One of them has the postscutellum immaculate, in the other it is lined with yellow.

The so-called "upper angles of the metathorax" are sharp, and separated from the postscutellum by an evident fissure (group of *simplex* ?)

62. Another ♂ of *crenatus* ? (Postscutellum yellow). (Oued Nça).
63. *Odynerus* (*Lionotus*) *fastidiosus* Sauss. ? ♀ (Djebel Mekter).

A very large insect quite corresponding to Saussure's description of *fastidiosus*, except that all its markings are **pure** yellow (not " ferruginous " !)

64. *Odynerus* (*Lionotus*) *rossii* Lep. ♂ (Aïn Sefra).
65. *Odynerus* (*Lionotus*) sp. ? ♀ (Aïn Sefra).

This may be a variety of *tripunctatus* F.; but its coloration neither quite agrees with Lepeletier's description, which Saussure endorses, nor with that of the specimens called *tripunctatus* at South Kensington. The scutellum and postscutellum are entirely black, the propodeum black with a small roundish red spot on each side. The first abdominal segment has a black central stripe dividing its declivous basal surface, and there is also a small black spot on the middle of its dorsal disc. The base of the second segment is occupied by a black fascia angularly produced in the middle and undulately on the sides; on its disc there is an obscure vague clouding such as Saussure mentions in describing his *sessilis* ("un T renversé"); and before its apex there are two lateral spots, as apparently in all forms of this group (*tripunctatus*, *sessilis*, and *filipalpis*). The apical margin of this segment appears to me quite simple; and this, if Saussure's account of *filipalpis* and *sessilis* is correct, would distinguish the present form from either of them. In specimens which I believe to be true *sessilis* from Spain, the margin of this segment is, as Saussure states, " cannelé transversalement et un peu relevé." On the whole I should call the present insect, provisionally, a variety of *tripunctatus*, F.

66. *Odynerus* (*Lionotus*) *canaliculatus* Sauss. ♀ (Oued Nça).

The clypeus in this specimen is entirely black; but I cannot doubt that it is a true *canaliculatus*, as it possesses all the extraordinary structural characters by which Saussure distinguishes his species.

67. *Odynerus* (*Ancistroceros*) *parietum* L. ♂ (Djebel Mekter).
68. *Pterochilus ornatus* Lep. ♀ (Oran).

The species was described from a ♂, also taken at Oran, by Lepeletier's son. This, I do not doubt, is its ♀, hitherto apparently unknown.

Apart from sexual differences, Lepeletier's description of the ♂ exactly suits it, except that on the first abdominal segment only a small triangular spot is black.

In this ♀ the maxillary palpi (N.B.) are much dilated, rounded at the apex, and completely encircled by a fringe of very long curving hairs. It belongs, therefore, to the group of *phaleratus*, *hellenicus*, etc., not to that of *numida* and *bembeciformis* (*terricola*).

69. *Ceramius fonscolombei* Latr. ♀ (Aïn Sefra).
70. *Colletes chobauti* Pérez ♂ (Djebel Mekter).
71. „ „ „ ♀ (Oued Nça).

I name these with some hesitation, being single specimens and the male armature, etc., imperfectly visible. But they seem to agree with examples in my own collection named by Pérez.

72. *Hylaeus* (= *Prosopis* auctt.) *variegatus* F. (Aïn Sefra).
73. *Halictus* sp. (?) ♂ (Aïn Sefra).

Seems allied to *malachurus*, but I do not recognise the species. Its pilosity is more or less squamose, and the face is exceedingly long—as much so as in *punctatissimus* Morawitz. The apices of the abdominal segments are discoloured as in *albipes*. The wings very clear, with slightly yellow veins and stigma. The antennae testaceous beneath. All the tibiae are yellow with a fuscous clouding on their external surface. The femora are fuscous up to the knees, and the tarsi entirely yellow.

74. *Sphecodes gibbus* ♀ L. var. (Aïn Sefra).

As usual in Algerian examples of this species the legs are largely red.

75. *Nomada chrysopyga* Morawitz ♂ (Oran).
76. „ „ „ ♀ (Tlemcen).
77. *Nomada glaucopis* Pérez ? ♂ (Oran).
78. *Nomada* sp. ♀ (Aïn Sefra).

A small testaceous and black insect, which I do not venture to determine.

79. *Panurgus siculus* Morawitz ♂ (Aïn Sefra).
80. *Systropha pici* Pérez ♀ (Aïn Sefra).

I have not seen this species before, but Pérez's description suffices to identify it.

81. *Andrena funebris* Lep. ♂ (Tlemcen).
82. *Andrena nigroaenea* K. ♀ (Aïn Sefra).
83. *Andrena labialis* K. ♂ (Oran).
84. *Andrena biskrensis* Pérez ♂ (Djebel Mekter).
85. „ „ „ ♀ „
86. *Melitturga rubricata* n. sp. ♀ (Aïn Sefra).

A very distinct species, instantly recognisable by the red basal segments of its abdomen. For its other characters see Diagnosis at end of this list.

87. *Ceratina cucurbitina* Rossi ♀ (Tlemcen).
88. *Osmia tricornis* Latr. ♂ (Tlemcen).
89. „ „ „ ♂ (Col de Sfa near Biskra).
90. „ „ „ ♀ (Tlemcen).

Similar specimens from Biskra have been recorded by the late E. Saunders in *Trans. Ent. Soc.* as *kohli* Ducke, but they do not appear to me to be separable from the European *tricornis*.

91. *Osmia latreillei* Spin. ♀ (Oued Nça).
92. *Anthidium sticticum* F. ♂ (Tlemcen).
93–95. „ „ „ ♂♂ (Hamman Rirha).
96. „ „ „ ♀ (Oran).
97. „ „ „ ♀ (Tlemcen).
98–99. *Anthidium bellicosum* Lep. ♀♀ (Ghardaïa).
100–101. *Anthidium pullatum* n. sp. ♀♀ (Oued Nça).

Distinct from most species of the genus by the entirely black abdomen. For other characters see the Diagnosis at end of this list.

102–103. *Chalicodoma nasidens* Friese ♀♀ (Ghardaïa).
104. „ „ „ ♀ (Oued Nça).
105. *Chalicodoma sicula* Rossi ♀ (Tifrit).
106. „ „ „ ♀ (Oran).

107–108. *Chalicodoma muraria* var. *rufitarsis* Lep. ♀ ♀ (Tlemcen).
109. *Eucera* (*Tetralonia*) *alternans* Brullé ♀ (Tifrit).
110–114. *Eucera hispana* Lep. ♂ ♂ (Hammam Rirha).
115–116. *Eucera trivittata* Brullé ♂ ♂ (Tlemcen).
117. „ „ „ ♂ (Hammam Rirha).
118. *Eucera notata* Lep. ♀ (Aïn Sefra).
119. *Eucera collaris* Dours ♀ (Hamman Rirha).
120. *Lasius* (= *Anthophora*) sp. (?) (♀ Aïn Sefra).

I believe that this species is identical with *semirufus* Friese, described from Egypt. But in the present specimen the apical segments of the abdomen are thinly clothed with fulvous hairs. If these were rubbed off, Friese's description would suit the specimen exactly ; and I believe that this had happened in the case of his "type," which was taken by myself. I have, however, no longer any specimen of *semirufus* ♂ or ♀ in my own collection, so that I may be mistaken. But under the circumstances I think it would be unwise to describe the present insect as a new species. (As to the name *Lasius* cf. *Trans. Ent. Soc. Lond.*, 1915, p. 421.)

121. *Lasius atriceps* Pérez ♂ (Djebel Mekter).
122. *Lasius lutulentus* Kl. ♀ (Aïn Sefra).
123–5. *Bremus* (=*Bombus*) *hortorum* L. ☿☿ (Hammam Rirha).
126. *Bremus lucorum* L. ♂ (Tlemcen).
127. „ „ „ ♀ (Hammam Rirha).

(For the name *Bremus* vide *Trans. Ent. Soc. Lond.*, 1915, p. 428.)

128–130. *Apis mellifera* L. ☿☿ (Hammam Rirha).

DIAGNOSES OF NEW SPECIES

Melitturga rubricata n. sp.

Nigra, abdomine magna parte rubro ; antennarum flagellis, tegulis venisque alarum (subcosta nigra excepta), pedum calcaribus articulisque apicalibus, tibiarum posticarum patellis, abdominisque segmenti 6^{ti} area mediana, plus minusve distincte rufescentibus vel brunneis.

Segmentorum abdominalium 1–4 margines subscariosi, alboque tenuiter ciliati. Fimbria analis albida, sed in medio infuscata. Scopae albae; tarsi extra albido-, intra fulvo-, pilosi.

♀. Long. circ. 13 mm. (Aïn Sefra, South-West Algeria).

The colour of the abdomen in this insect gives it a curious resemblance to certain species of *Andrena* (e.g. *bipartita*, *schenki*, *helouanensis*, etc.). Probably it varies somewhat in individuals, but in the present specimen the basal segment of the abdomen is red entirely, except for a bilobed or "bi-ramose" black mark which surrounds its attachment to the thorax, but does not extend beyond the basal (declivous) portion of its surface, and is therefore not visible in the direct dorsal view. Segment 2 has on each side (just over the spiracle) a sharply defined longitudinal black oval spot, otherwise it is red entirely. Segment 3 is red, except for a black subtriangular mark in the middle of its ventral plate. Segment 4, above, is clouded with black from its apex almost to its base; beneath, it is also clouded, but less extensively. The three apical segments are almost entirely black.

The head and thorax are clothed with a rather thin pale pilosity, which is longest at the sides and beneath. The basal segment of the abdomen is clothed

similarly; but the three segments following are almost naked, except their ciliated margins. The apical fimbria is dense and conspicuous; dusky in the middle of segment 5, and entirely so on segment 6. It is white at the sides of segment 5; the hairs long, sub-erect, and incurved at their apices. The ventral segments are fringed with long sub-erect hairs.

The pilosity of the legs (scopae, etc.) is mostly white, but is fulvous (or in some lights golden) on the inside of the tarsi.

The base of the labrum is polished and shining. The clypeus is coarsely and somewhat rugosely punctured; the rest of the head and thorax are punctured more finely. Between the punctures the surface appears smooth and shining. The propodeum is opaque in the middle, less so at the sides, its sculpture feeble and shallow. The abdomen is finely and closely punctured throughout, the punctures very shallow, and the surface between them microscopically aciculate, yet slightly shining.

Anthidium pullatum n. sp.

Corpus, exceptis mandibulis late citrino-pictis, punctoque parvo citrino pone utrumque oculum, nigrum immaculatum.

Clypei subquadrati margo apicalis reflexus, crenatus. Scutelli margo edentatus, arcuatus, in medio leniter introrsus sinuatus. Corpus superne breviter, infra et in lateribus multo longius, albido-pilosum. Scopa ventralis alba: abdominis segmenti dorsalis 5^ti^ margo satis conspicue niveo-fasciatus. Pedes extra niveo- intus fulvo-pilosi. Calcaria alba. Unguiculi in medio acute denticulati. Mandibulae, clypeique margo crenatus, valde nitentes: reliquum caput cum thorace dense rugoso-punctatum et opacum. Abdomen concinne punctulatum, subopacum. Alae sordide hyalinae. Cellulae radialis dimidium superius infuscatum. Tegularum margines externi late scariosi. Abdominis segmentum quasi in medio carinatum (lateribus utrinque impressis vel foveatis); cuius carinae apex ultra reliquum marginem segmenti (fere sicut dens obtusus) prominet.

Long. circ. 11 mm., lat. 4 mm.

2 ♀ ♀, Oued Nça.

Of the known *Anthidium* species with immaculate abdomen the nearest to *pullatum* seems to be *moricei* Friese, but that appears to have black mandibles, and its body is described as shining, whereas in *pullatum* it is decidedly opaque. *Montanum* Morawitz is altogether unlike it, having (inter alia) a quite different pilosity. I have compared Dr. Hartert's specimens with all the forms of *Anthidium*, named and unnamed, in the South Kensington collections, but can find nothing really resembling them, nor even, I believe, at all nearly related to them. But, till the ♂ is known, it is perhaps rash to discuss the affinities of the ♀.